



## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

[FWS–R6–ES–2021–N182; FXES11140600000]

### Endangered and Threatened Wildlife and Plants; Draft Recovery Plan for Meltwater Lednian Stonefly (*Lednia tumana*) and Western Glacier Stonefly (*Zapada glacier*)

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of document availability for review and comment.

**SUMMARY:** We, the U.S. Fish and Wildlife Service, announce the availability of a draft recovery plan for meltwater lednian stonefly and western glacier stonefly, two insect species listed as threatened under the Endangered Species Act. We request review and comment on this draft recovery plan from Federal, State, Tribal, and local agencies and the public.

**DATES:** We must receive any comments on the draft recovery plan on or before

**[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].**

**ADDRESSES:** *Document availability:* Copies of the draft recovery plan are available at <http://www.fws.gov/endangered/species/recovery-plans.html>. Alternatively, you may request a copy by U.S. mail from the Montana Ecological Services Field Office; 585 Shepard Way, Suite 1; Helena, MT 59601; or by telephone at 406–449–5225. Persons who use a telecommunications device for the deaf may call the Federal Relay Service at 800–877–8339.

*Submitting comments:* If you wish to comment on the draft recovery plan, you may submit your comments in writing by email to Ben Conard, at [ben\\_conard@fws.gov](mailto:ben_conard@fws.gov), or by U.S. mail to Ben Conard, Acting Project Leader, at the above U.S. mail address.

**FOR FURTHER INFORMATION CONTACT:** Ben Conard, Acting Project Leader, at the above U.S. mail address or by telephone at 406–449–5225. Persons who use a telecommunications device for the deaf may call the Federal Relay Service at 800–877–8339.

**SUPPLEMENTARY INFORMATION:** We, the U.S. Fish and Wildlife Service (Service), announce the availability of a draft recovery plan for meltwater lednian stonefly (*Lednia tumana*; hereafter, MWS) and western glacier stonefly (*Zapada glacier*; hereafter, WGS), two insects listed as threatened under the Endangered Species Act, as amended (Act; 16 U.S.C. 1531 *et seq.*). The draft recovery plan includes objective, measurable criteria, and site-specific management actions as may be necessary to remove each species from the Federal List of Endangered and Threatened Wildlife. We request review and comment on this draft recovery plan from Federal, State, Tribal, and local agencies and the public.

## **Species Information**

On December 23, 2019, we listed the MWS and WGS as threatened species (November 21, 2019; 84 FR 64210). We did not designate critical habitat for either species. We prepared a biological report for the MWS and WGS (Service 2020), which is an in-depth but not exhaustive review of the species' biology and threats, an evaluation of its biological status, and an assessment of the resources and conditions needed to maintain long-term viability. We summarize the biological report below.

MWS and WGS are small insects in the stonefly family (Nemouridae) that live in alpine streams that flow from melting glaciers and snowfields in Montana, Wyoming, and southwest Alberta, Canada. Both species begin life as eggs, hatch into aquatic nymphs, and later mature into winged adults, surviving briefly on land before reproducing and dying. Both stonefly species prefer cold water temperatures, and therefore are most often found within the first 600 meters (1,968 feet) of a stream, almost immediately downstream from sources of frozen water, such as glaciers and snowfields. The National Park Service manages 94 percent and 63 percent of habitat for MWS and WGS, respectively. The U.S. Forest Service manages 5 percent and 37 percent of habitat for MWS and WGS, respectively. The Confederated Salish and Kootenai Tribes manage less than 1 percent of habitat for MWS.

The MWS currently occupies 113 streams across its known range, and the WGS currently occupies 16 streams across its known range; however, cumulatively, both species occupy relatively small amounts of habitat per stream on average, approximately 600 meters (1,968 feet) per stream. Both species occupy only these small amounts of area per stream because of their low thermal tolerances and the rapid warming of meltwater streams downstream of the meltwater sources, from full sun exposure in alpine environments. Further, both species inhabit the most upstream reaches of their meltwater habitats and cannot disperse further upstream if water temperatures warm beyond their thermal tolerances. This narrow distribution within streams and inability to disperse

upstream increases the risk of harm due to stochastic events, such as drought or annual weather fluctuations. Thus, the current overall resiliency of the meltwater habitat and sources for both species is low.

The primary threat to both stonefly species and their habitat is habitat degradation and fragmentation due to climate change. Both stonefly species are intimately tied to cold meltwater aquatic habitat, the sources of which are glaciers or snowfields. Thus, the viability of both species is closely linked to the persistence of these glaciers and snowfields and their ability to continue to provide meltwater habitat in a warming climate. These meltwater sources vary in size, but most are predicted to completely melt by 2030. Warming air temperatures have already been implicated in faster melting of meltwater sources (glaciers and snowfields) in Glacier National Park and elsewhere. As these meltwater sources begin to disappear, streamflows are expected to become intermittent and water temperatures warmer.

Dewatering of MWS and WGS habitat, even periodically, would result in the extirpation of entire populations because the aquatic nymphs of both species need flowing water to breathe. Melting of meltwater sources is also expected to increase stream temperatures, forcing nymphs to disperse upstream to stay within their temperature tolerances. However, both species already occupy the most upstream portions of their meltwater habitats, so upstream dispersal is not possible. As a result of the fragmentation and degradation of meltwater habitats, available habitat in Glacier National Park for MWS is predicted to decline by 80 percent by 2030 (Muhlfeld *et al.* 2011, p. 342). For WGS, we have observed a declining trend in their distribution over the last 50 years due to warmer air temperatures associated with climate change (Giersch *et al.* 2015, p. 58). Please refer to our biological report for additional discussion and full analyses of the life history, ecology, threats, and biological status for MWS and WGS (Service 2020).

## **Recovery Planning Process**

Restoring an endangered or threatened animal or plant to the point where it is again a secure, self-sustaining member of its ecosystem is a primary goal of the Service's endangered species program. Recovery means improving the status of a listed species to the point at which listing is no longer necessary according to the criteria specified under section 4(a)(1) of the Act. The Act requires recovery plans for listed species unless such a plan would not promote the conservation of a particular species. To help guide recovery efforts, we prepare recovery plans to promote the conservation of the species.

The purpose of a recovery plan is to provide a recommended framework for the recovery of a species so that protection of the Act is no longer necessary. Pursuant to section 4(f) of the Act, a recovery plan must, to the maximum extent possible, include:

- (1) A description of site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species;
- (2) Objective, measurable criteria which, when met, would support a determination under section 4(a)(1) of the Act that the species should be removed from the List of Endangered and Threatened Species; and
- (3) Estimates of time and costs required to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal.

We used our new recovery planning and implementation (RPI) process to develop the draft recovery plan for MWS and WGS. The RPI process helps reduce the time needed to develop and implement recovery plans, increases the relevancy of the recovery plan over longer timeframes, and adds flexibility so that the recovery plan can be more easily adjusted to new information and circumstances. Under our RPI process, a recovery plan will include the three statutorily required elements for recovery plans—objective and measurable criteria, site-specific management actions, and estimates of

time and cost—along with a concise introduction and our strategy for how we plan to achieve species recovery. The RPI recovery plan is supported by a separate biological report for MWS and WGS (Service 2020). The biological report is an in-depth but not exhaustive review of the species' biology and threats, an evaluation of its biological status, and an assessment of the resources and conditions needed to maintain long-term viability. The biological report provides the scientific background and threats assessment for MWS and WGS, which are key to the development of the recovery plan. A third, separate working document, called the recovery implementation strategy (RIS), steps down the more general descriptions of actions in the recovery plan to detail the specifics needed to implement the recovery plan, which improves the flexibility of the recovery plan. The RIS will be adaptable, with new information on actions incorporated, as needed, without requiring a concurrent revision to the recovery plan, unless changes to the three statutory elements are required.

### **Draft Recovery Plan**

Below, we summarize components from our draft recovery plan. Please reference the draft recovery plan for full details.

The draft recovery plan describes the recovery vision as the conservation and survival of MWS and WGS. Recovery for both species will be signified by resilient, redundant populations and meltwater habitats and sources of meltwater across a representative portion of their respective known ranges. Both species need sources of aquatic meltwater habitats, such as glaciers and snowfields, that have enough mass to provide continual meltwater to endure stochastic environmental change, such as from drought and reduced annual snowfall. Both species also need sufficient distribution and diversity across populations to withstand catastrophes and long-term warming climate trends. This would be achieved by implementing recovery actions, such as surveying for

additional populations, researching thermal tolerance limits, identifying potential translocation areas, and exploring controlled propagation techniques.

The draft recovery plan includes recovery criteria for delisting. The delisting criteria are summarized below, with additional detail provided in the draft recovery plan:

- (1) Maintaining stable or increasing trends in the area of meltwater sources (glaciers and snowfields), and at least 1,250 hectares (3,087 acres) of meltwater sources across the known ranges of both species; and
- (2) Maintaining stable or increasing trends in stream miles, with at least 35 occupied stream miles for both species.

## **Peer Review**

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994); our August 22, 2016, Director's Memo on the Peer Review Process; and the Office of Management and Budget's December 16, 2004, Final Information Quality Bulletin for Peer Review (revised June 2012), we will seek the expert opinion of at least three appropriate independent specialists regarding scientific data and interpretations contained in the species biological report and the draft recovery plan. We will send copies of both documents to the peer reviewers immediately following publication of this notice in the *Federal Register*. We will ensure that the opinions of peer reviewers are objective and unbiased by following the guidelines set forth in the Director's Memo, which updates and clarifies Service policy on peer review (Service 2016). The purpose of such review is to ensure that our decisions are based on scientifically sound data, assumptions, and analysis. Accordingly, our final species biological report and recovery plan may differ from the draft documents. We will post the results of this structured peer review process on our website at <https://www.fws.gov/mountain->

prairie/science/peerReview.php. The biological report is the scientific foundation for the draft recovery plan.

### **Request for Public Comments**

All comments we receive by the date specified (see **DATES**) will be considered prior to approval of the recovery plan. Written comments and materials regarding the recovery plan should be sent via one of the means in the **ADDRESSES** section.

We will consider all information we receive during the public comment period, and particularly look for comments that provide scientific rationale or factual background. The Service and other Federal agencies and partners will take these comments into consideration in the course of implementing an approved final recovery plan. We are specifically seeking comments and suggestions on the following questions:

- Understanding that the time and cost presented in the draft recovery plan will be fine-tuned when localized recovery implementation strategies are developed, do you think that the estimated time and cost to recovery are realistic? Is the estimate reflective of the time and cost of actions that may have already been implemented by Federal, State, county, or other agencies? Please provide suggestions or methods for determining a more accurate estimation.
- Do the draft recovery criteria provide clear direction to partners on what is needed to recover MWS and WGS? How could they be improved for clarity?
- Are the draft recovery criteria both objective and measurable, given the information available for MWS and WGS now and into the future? Please provide suggestions.
- Understanding that specific, detailed, and area-specific recovery actions will be developed in the RIS, do you think that the draft recovery actions presented

in the draft recovery plan generally cover the types of actions necessary to meet the recovery criteria? If not, what general actions are missing? Are any of the draft recovery actions unnecessary for achieving recovery? Have we prioritized the actions appropriately?

### **Public Availability of Comments**

We will summarize and respond to the issues raised by the public in an appendix to the approved final recovery plan. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. You may request at the top of your comment that we withhold this information from public review; however, we cannot guarantee that we will be able to do so.

### **Authority**

The authority for this action is section 4(f) of the Endangered Species Act, 16 U.S.C. 1533(f).

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**Anna Muñoz,**  
**Acting Deputy Regional Director.**

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